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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,752	12/31/2001	C. Andrew Neff	324628006US1	6285

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EXAMINER

WILLIAMS, JEFFERY L

ART UNIT PAPER NUMBER

2137

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/038,752

Applicant(s)

NEFF, C. ANDREW

Examiner

Jeffery Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12,29,30,32 and 34-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12,29,30 and 32 is/are allowed.
- 6) ☒ Claim(s) 34-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/6/06 8/24/05 10/20/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This action is in response to the communication filed on 12/20/2005.

All objections and rejections not set forth below have been withdrawn.

Claims 1 – 12, 29, 30, 32, 34-36 are pending.

Claims 13 – 28, 31, 33, and 37 – 50 have been cancelled by the applicant.

Allowable Subject Matter

Claims 1 – 12, 29, 30, 32 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1, what is claimed is a data processing system for discerning corruption of an electronic ballot.

In a first aspect, the system as claimed comprises the sending of an encrypted ballot and a validity proof (a proof showing that the ballot is valid), from a voter computer system to a vote collection center computer system. The vote collection center computer system receives the encrypted ballot and validity proof, verifies the validity proof, and if the ballot is valid, generates an encrypted vote confirmation without decrypting the encrypted ballot, and sends the vote confirmation to the voter computer

1 system. The voter computer system receives the encrypted vote confirmation, decrypts
2 the confirmation, and displays the confirmation to the user.

3 In a second aspect, the system as claimed further comprises a confirmation
4 dictionary in the user's possession, which is used to translate the vote confirmation
5 received from the vote collection computer system to the ballot choice selected by the
6 voter. If the vote confirmation received by the voter computer system does not equal an
7 entry in the confirmation dictionary indicating the voter's ballot choice, then the voter
8 can determine that the ballot had been corrupted.

9 Examiner points out that the "confirmation dictionary" does not have an accepted
10 meaning in the art. As shown by the applicant, the claimed confirmation dictionary
11 includes at least a data structure (i.e. table) containing a plurality of values each
12 corresponding to a possible ballot choice, and containing one value equaling the
13 received vote confirmation only if the ballot had not been corrupted. The claimed
14 confirmation dictionary is unique per voter, generated by the vote collection computer
15 system using random and independent values, secret to and uniquely generated by the
16 vote collection computer system for each voter. Further, the claimed confirmation
17 dictionary is distributed by the vote collection computer system to each voter (Instant
18 Application, page 6, lines 1-4; page 7, lines 1-8; page 10, line 29 – page 11, line 2; page
19 14, lines 1-3; page 18, lines 17-19).

20 Prior Art teaches or suggests elements of the first aspect of the claimed
21 invention. Namely the sending of encrypted ballots and ballot validity proofs and the
22 generating of a type of vote confirmation that may be used by the voter to confirm that a

1 vote has been correctly received and/or counted by an electronic voting system (Kilian
2 et al. - "Secure Electronic Voting Using Partially Compatible Homomorphisms" (U.S.
3 Patent, 5,495,532), Fujioka et al. - "Electronic Voting Method and System and
4 Recording Medium Having Recorded Thereon a Program for Implementing the Method"
5 (U.S. Patent 6,845,447 B1), Cranor - "Electronic Voting", Cramer et al. - "A Secure and
6 Optimally Efficient Multi-Authority Election Scheme", Cramer et al. - "Multi-Authority
7 Secret-Ballot Elections with Linear Work", and Borrell et al. - "An Implementable Secure
8 Voting Scheme"). However, the Prior Art does not teach or suggest the combination of
9 the first and second aspects of the invention as claimed, including the confirmation
10 dictionary.

11
12 Regarding claims 2 – 11, they are dependent upon and further limit claim 1.

13
14 Regarding claim 12, it is substantially similar to claim 1, being content on a
15 computer readable medium that performs the functions indicated by the method claim 1,
16 and is allowable for the same reasons.

17
18 Regarding claim 29, it is substantially similar to claim 1, with respect to the
19 claimed combination of the first and second inventive aspects. Specifically, the first
20 aspect of generating an encrypted vote confirmation from an encrypted ballot, and
21 sending the encrypted vote confirmation to the voter computer system. The second
22 aspect comprising a confirmation dictionary sent to the voter computer system which is

1 used to translate the vote confirmation received from the vote collection computer
2 system to the ballot choice selected by the voter. If the vote confirmation received by
3 the voter computer system does not equal an entry in the confirmation dictionary
4 indicating the voter's ballot choice, then the voter can determine that the ballot does not
5 correspond to the intended vote selection. Thus, claim 29 is allowable for similar
6 reasons as claim 1.

7
8 Regarding claims 30 and 32, they are dependent upon and further limit claim 29.

9
10 The examiner notes that the applicant has amended claim 34 to resemble the
11 first and second inventive aspects, indicated to be allowable with respect to claims 1,
12 12, and 29. However, the applicant has failed to address the claim's deficiencies under
13 35 USC § 101, as rejected by the examiner. Thus, the examiner points out that claim
14 34 appears to be allowable (assuming it is amended to overcome the 101 rejections and
15 any subsequent issues that may arise from an amendment).

16
17 Regarding claim 35, it is dependent upon and further limits claim 34.

18
19 ***Claim Objections***

20
21 Claim 36 is objected to under 37 CFR 1.75(c), as being of improper dependent
22 form for failing to further limit the subject matter of a previous claim. Applicant is

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1 required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper
2 dependent form, or rewrite the claim(s) in independent form. Specifically, claim 36 is a
3 repetition of the same limitations as claim 34.

4
5 ***Claim Rejections - 35 USC § 101***

6
7 35 U.S.C. 101 reads as follows:

8 Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
9 matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
10 conditions and requirements of this title.

11
12 **Claims 34 – 36 are rejected under 35 U.S.C. 101 because the claimed**
13 **invention is directed to non-statutory subject matter.**

14
15 Claims 34 –36 are directed towards data signals and thus are rejected as not
16 being tangible. Signals, carrier waves, transmissions, optical waves, and transmission
17 media are considered to be intangible, and do not fall within one of the statutory
18 categories of invention. For the benefit of the applicant, and the furtherance of
19 prosecution, the examiner would also like to point out that the embodied "ballot
20 response data structure" does not appear to be a true data structure as opposed to
21 mere data per se. The definition of "data structure" is "a physical or logical relationship
22 among data elements, designed to support specific data manipulation functions." The
23 New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).
24 Thus, when nonfunctional descriptive material is recorded on some computer-readable
25 medium, in a computer or on an electromagnetic carrier signal, it is not statutory since

1 no requisite functionality is present to satisfy the practical application requirement.
2 Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored in a
3 computer-readable medium, in a computer, on an electromagnetic carrier signal does
4 not make it statutory.

5
6 To expedite a complete examination of the instant application, it is presumed that
7 the claims rejected under 35 USC § 101 above will be amended so as to place them
8 within a statutory category.

9
10 ***Response to Arguments***

11
12 Applicant's arguments filed 12/20/05 have been fully considered but they are not
13 persuasive.

14 The applicant's representative simply states, "*While the applicant does not*
15 *concur in the rejections under 35 USC § 101 and § 103 (a), in order to expedite*
16 *issuance of a patent, he hereby amends the claims to incorporate the contents of claims*
17 *31 and 36 ...*" (Remarks, pg. 9).

18 The examiner points out, however, that the applicant's representative fails to
19 address the rejection of claims 34-36 under 35 USC § 101. While the applicant's
20 representative may not agree with the 101 rejection of claims 34, 35, and 36, the
21 applicant's representative must still address the outstanding rejection
22

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Bruce Schneier, Applied Cryptography, Second Edition, 1996, John Wiley & Sons Inc., pages 476 – 481, 490-1, 532-3.

Hall et al., "Voting Method and System", U.S. Pub. 2002/0074399 A1.

Karro et al., "Electronic Voting System", U.S. Pub. 2002/0077885 A1.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery Williams whose telephone number is (571) 272-7965. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeffery Williams
AU: 2137


EMMANUEL L. MOISE
SUPERVISORY PATENT EXAMINER